

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A fiber Bragg grating strain sensor, said sensor comprising:
a strain sensor member having a strain sensing section for receiving stress in a longitudinal direction; and

ay a fiber Bragg grating fastened to ~~the~~ said strain sensor member within the strain sensing section, having a first end oriented in the longitudinal direction, a second end oriented in a lateral direction perpendicular to the longitudinal direction, and a fiber axis describing one quarter of a circular arc between the first end and the second end.

2. (Currently Amended) The fiber Bragg grating strain sensor of claim 1, wherein ~~the~~ said strain sensor member has a form of a plate of constant thickness, including the strain sensing section as a central section, further including a pair of stress-transmitting appendages joined to longitudinally opposite sides of the strain sensing section, by which ~~said~~ the stress is applied to the strain sensing section.

3. (Original) The fiber Bragg grating strain sensor of claim 2, wherein the strain sensing section has a constant width in the lateral direction.

4. (Currently Amended) The fiber Bragg grating strain sensor of claim 3, wherein ~~the~~ said stress-transmitting appendages are wider than the strain sensing section in the lateral direction.

5. (Currently Amended) The fiber Bragg grating strain sensor of claim 4, wherein ~~the~~ said stress-transmitting appendages and strain sensing section form an H shape.

6. (Original) The fiber Bragg grating strain sensor of claim 2, wherein the strain sensing section has a tapered shape.

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7. (Currently Amended) The fiber Bragg grating strain sensor of claim 6, wherein the said stress-transmitting appendages are at least as wide, in the lateral direction, as the sides of the strain sensing section to which they are joined.

8. (Currently Amended) The fiber Bragg grating of claim 7, wherein the width of the strain sensing section decreases continuously from one of ~~said~~ the longitudinally opposite sides to another one of ~~said~~ the longitudinally opposite sides.

9. (New) The fiber Bragg grating strain sensor of Claim 1, wherein the first end and second end of said fiber Bragg grating are oriented at right angles with respect to one another.

10. (New) The fiber Bragg grating strain sensor of Claim 1, wherein when the stress is received in the longitudinal direction of said fiber Bragg grating strain sensor, the first end of said fiber Bragg grating becomes elongated and the second end of said fiber Bragg grating becomes compressed.

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11. (New) The fiber Bragg grating strain sensor of Claim 5, wherein said stress-transmitting appendages each have a width which is greater than a width of the strain sensing section.

12. (New) The fiber Bragg grating strain sensor of Claim 6, wherein one of said stress-transmitting appendages at a wide end of the strain sensing section has a width (w_1) equal to the width (w_L) of this end of the strain sensing section and the other one of said stress-transmitting appendages at a narrow end of the strain sensing section has a width (w_2) greater than w_1 and w_L .
